WHAT IS CLAIMED IS:

1. A hard disk drive, comprising:

at least one storage disk;

at least one drive controller reading data from and writing data to the disk, the drive controller executing logic comprising:

executing a scrub cycle including:

reading at least one data unit;

determining whether an error exists in the data unit, and if so, undertaking at least one of: recording the error, and reporting the error;

executing the reading and determining logic for subsequent data units;

if a user request for at least one of: a data read, and a data write, is received, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle.

2. The disk drive of Claim 1, in combination with a RAID system, wherein the user request is received by the drive controller from a RAID controller.

3. The disk drive of Claim 2, comprising waiting a delay period after fulfilling all user requests in a user request queue prior to resuming the scrub cycle.

4. The disk drive of Claim 3, wherein the delay period is an adaptive delay period that depends on at least one of: a frequency, and a number, of user requests received from the RAID controller.

5. The disk drive of Claim 1, wherein the disk drive is partitioned into data bands, the drive controller maintaining a table indicating at least recent accesses to bands.

6. The disk drive of Claim 1, comprising executing the scrub cycle on data immediately adjacent on the disk to data that is subject to a user request, as part of fulfilling the request.

7. The disk drive of Claim 1, comprising executing the scrub cycle on first data that has been written more recently than second data, and then scrubbing the second data.

8. The disk drive of Claim 1, comprising executing the scrub cycle on areas of the disk that have been more frequently accessed than other, less frequently used areas, and then scrubbing the less frequently used areas.

9. A hard disk drive, comprising:

at least one storage disk;

at least one drive controller reading data from and writing data to the disk, the drive controller executing logic comprising:

executing a scrub cycle including:

reading at least one data unit;

determining whether an error exists in the data unit, and if so, undertaking at least one of: recording the error, and reporting the error;

executing the reading and determining logic for subsequent data units;

if a user request for at least one: a data read, and a data write, is received, and if a current scrub rate exceeds a threshold rate, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle, and otherwise not interrupting at least an existing scrub read of the scrub cycle.

10. The disk drive of Claim 9, in combination with a RAID system, wherein the user request is received by the drive controller from a RAID controller.

11. The disk drive of Claim 10, comprising waiting a delay period after fulfilling all user requests in a user request queue prior to resuming the scrub cycle.

12. The disk drive of Claim 11, wherein the delay period is an adaptive delay period that depends on at least one of: a frequency, and a number, of user requests received from the RAID controller.

13. The disk drive of Claim 9, wherein the disk drive is partitioned into data bands, the drive controller maintaining a table indicating at least recent accesses to bands.

14. The disk drive of Claim 9, comprising executing the scrub cycle on data immediately adjacent on the disk to data that is subject to a user request as part of fulfilling the request.

15. The disk drive of Claim 9, comprising executing the scrub cycle on first data that has been written more recently than second data, and then scrubbing the second data.

16. The disk drive of Claim 9, comprising executing the scrub cycle on areas of the disk that have been more frequently accessed than other, less frequently used areas, and then scrubbing the less frequently used areas.

17. A hard disk drive, comprising:

at least one storage disk;

at least one drive controller reading data from and writing data to the disk, the drive controller executing logic comprising:

executing a scrub cycle including:

reading at least one data unit;

determining whether an error exists in the data unit, and if so, undertaking at least one of: recording the error, and reporting the error;

executing the reading and determining logic for subsequent data units, wherein the scrub cycle is executed on first data that has been written more recently than second data, and then is executed on the second data.

18. The hard disk drive of Claim 17, wherein if a user request for at least one of: a data read, and a data write, is received, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle.

19. The disk drive of Claim 18, in combination with a RAID system, wherein the user request is received by the drive controller from a RAID controller.

20. The hard disk drive of Claim 17, wherein if a user request for at least one: a data read, and a data write, is received, and if a current scrub rate exceeds a threshold

rate, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle, and otherwise not interrupting at least an existing scrub read of the scrub cycle.

21. A hard disk drive, comprising:

at least one storage disk;

at least one drive controller reading data from and writing data to the disk, the drive controller executing logic comprising:

executing a scrub cycle including:

reading at least one data unit, the data unit being preferentially selected for the scrub if it is immediately adjacent on the disk to data that has been subject to a user request;

determining whether an error exists in the data unit, and if so, undertaking at least one of: recording the error, and reporting the error;

executing the reading and determining logic for subsequent data units.

22. The hard disk drive of Claim 21, wherein if a user request for at least one of: a data read, and a data write, is received, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle.

23. The disk drive of Claim 22, in combination with a RAID system, wherein the user request is received by the drive controller from a RAID controller.

24. The hard disk drive of Claim 21, wherein if a user request for at least one: a data read, and a data write, is received, and if a current scrub rate exceeds a threshold rate, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle, and otherwise not interrupting at least an existing scrub read of the scrub cycle.

25. A hard disk drive, comprising:

at least one storage disk;

at least one drive controller reading data from and writing data to the disk, the drive controller executing logic comprising:

executing a scrub cycle including:

reading at least one data unit;

determining whether an error exists in the data unit, and if so, undertaking at least one of: recording the error, and reporting the error;

executing the reading and determining logic for subsequent data units, wherein the scrub cycle is executed on areas of the disk that have been more frequently accessed than other, less frequently used areas, and then is executed on the less frequently used areas.

26. The hard disk drive of Claim 25, wherein if a user request for at least one of: a data read, and a data write, is received, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle.

27. The disk drive of Claim 26, in combination with a RAID system, wherein the user request is received by the drive controller from a RAID controller.

28. The hard disk drive of Claim 25, wherein if a user request for at least one: a data read, and a data write, is received, and if a current scrub rate exceeds a threshold rate, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle, and otherwise not interrupting at least an existing scrub read of the scrub cycle.

29. A redundant array of independent disks (RAID) system comprising a RAID controller and a plurality of hard disk drives, each disk drive including at least one storage disk and at least one drive controller reading data from and writing data to the disk, wherein the drive controller for each disk drive is coupled to the RAID controller, the drive controller for each drive autonomously executing a scrub cycle on its disks and, if a user request for at least one of: a data read, and a data write, is received, interrupting the scrub cycle to fulfill the request, and then resuming the scrub cycle.